

WHAT IS CLAIMED IS:

1. A method comprising:
clamping a pellicle between a first frame and a second frame; and
attaching at least one of the first frame and second frame to a reticle.

2. The method of Claim 1, wherein the pellicle comprises a polymer membrane.

3. The method of Claim 2, wherein the pellicle comprises amorphous cyclized perfluoropolymer.

4. The method of Claim 1, wherein the pellicle comprises a polymer thermoplastic film having an optical transparency permitting at least 90% transmission at a pre-determined exposure wavelength.

5. The method of Claim 1, wherein the pellicle comprises a polymer thermoplastic film having an optical durability of at least 90% transmission after a plurality of kiloJoules/cm² irradiation equivalent dose at a pre-determined exposure wavelength.

6. The method of Claim 1, wherein said clamping the pellicle between the first and second frames applies tension on an outer edge of the pellicle.

7. The method of Claim 1, further comprising heating the first frame, second frame and pellicle above a glass transition temperature of the pellicle.

8. The method of Claim 1, further comprising heating the first frame, second frame and pellicle up to temperature below a melting point temperature of the pellicle.

9. The method of Claim 8, further comprising cooling the first frame, second frame and pellicle.

10. The method of Claim 1, further comprising selecting a first material for the first frame and selecting a second material for the second frame, wherein the first material has a lower coefficient of thermal expansion than the second material.

11. The method of Claim 1, further comprising attaching screws to the first and second frames.

12. The method of Claim 1, wherein said attaching at least one of the first frame and second frame to the reticle comprises:

placing a polymer layer between the reticle and at least one of the first frame and second frame, the polymer layer having a melting point between about 60 to 150 degrees Celsius; and

heating the polymer layer between about 45 to 150 degrees Celsius.

13. The method of Claim 12, wherein the polymer layer comprises a thermoplastic.

14. The method of Claim 12, further comprising applying pressure to the reticle and at least one of the first frame and second frame during said heating.

15. The method of Claim 12, further comprising forming a hermetic seal between the reticle and at least one of the first frame and second frame.

16. The method of Claim 12, further comprising cutting the polymer layer to match a bottom surface area of at least one of the first frame and second frame.

17. The method of Claim 12, wherein said heating is local to the polymer layer bonding the frame to the reticle.

18. A method comprising:
clamping a polymer film between a first frame and a second frame, the polymer film having a different coefficient of thermal expansion than the first and second frames;
heating the polymer film in a range between a glass transition temperature and a melting point temperature; and
cooling the polymer film after heating to stretch the polymer film.

19. The method of Claim 18, wherein said heating and cooling are performed at pre-determined rates.

20. An apparatus comprising:
a pellicle;
a first frame; and
a second frame, the first and second frame to clamp an outer edge of the pellicle.

21. The apparatus of Claim 20, wherein the pellicle comprises a polymer membrane.

22. The apparatus of Claim 20, wherein the pellicle comprises amorphous cyclized perfluoropolymer.

23. The apparatus of Claim 20, wherein the pellicle comprises a polymer compound having an optical transparency permitting at least 90% transmission at a pre-determined exposure wavelength.

24. The apparatus of Claim 20, wherein the pellicle comprises a polymer compound having an optical durability of at least 90% transmission after a plurality of kiloJoules/cm² irradiation equivalent dose at a pre-determined exposure wavelength.

25. The apparatus of Claim 20, wherein at least one of the first frame and second frame is made of aluminum.

26. The apparatus of Claim 20, wherein the first frame has a lower coefficient of thermal expansion than the second frame.

27. The apparatus of Claim 20, wherein at least one of the first frame and second frame is made of Invar.

28. The apparatus of Claim 20, wherein the first and second frames are shaped to maintain tension on the pellicle.

29. The apparatus of Claim 20, wherein the pellicle has a lower thermal expansion coefficient than at least one of the first frame and the second frame.

30. The apparatus of Claim 20, wherein the pellicle has a higher thermal expansion coefficient than at least one of the first frame and the second frame.

31. The apparatus of Claim 20, further comprising a reticle attached to at least one of the first frame and second frame.

32. The apparatus of Claim 31, further comprising a polymer layer to attach the reticle to at least one of the first frame and second frame.